

Abstract

The objective is to present compositions obtained by supporting by polymers micro clusters of transition metals and the like that are useful as catalysts in various reactions and, once used, are readily recovered and reused.

5 A polymer-supported metal cluster composition is obtained by supporting a transition metal by a cross-linked polymer, and the polymer-supported cluster composition is characterized by the cross-linked polymer obtained by cross-linking of a cross-linkable polymer containing a hydrophilic side chain and a hydrophobic side chain group having a cross-linkable functional group. This polymer-supported metal
10 cluster composition is, for example, preferably formed by first forming a micelle composed of the metal clusters supported by the cross-linkable polymer in a suitable solution and subsequently subjecting the cross-linkable polymer to a cross-linking reaction. The composition is useful as a catalyst and the like in hydrogenation reactions, dehydrogenation reactions, allylic substitution reactions, oxidation reactions,
15 coupling reactions and carbonylation reactions.